



Politechnik Rzeszowska

Katedra Konstrukcji Maszyn

Inżynierski projekt układanki logicznej (połączenie piłki z kostka Rubika)

Modelowanie obiektowe w środowisku SolidWorks-a



**Opracował
Piotr Strojny**

Od pomysłu do modelu

$$R_{sz} = 0,826 \cdot A$$

$$54 < A < 60$$

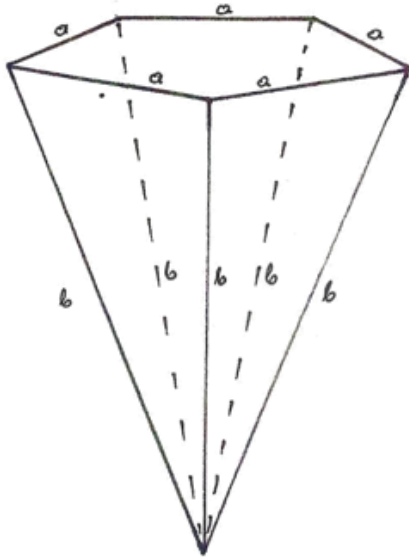
$$44,6 \leq R_{sz} \leq 49,6$$

A - długość boku 20. ścian

a - długość boku 32. ścian

$$a = \frac{1}{3} A$$

$\delta = 63,4^\circ$ kąt nachylenia ściany bocznej ostrosłupa do podłoża



H - wysokość ostrosłupa

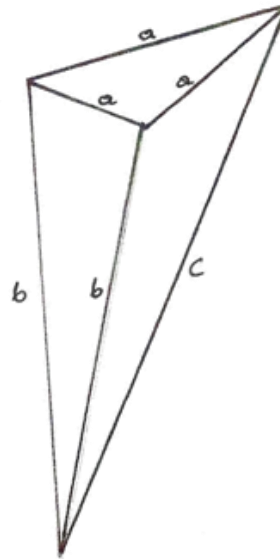
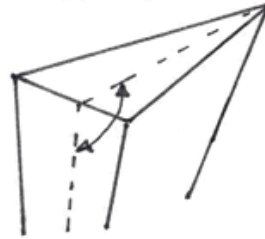
$$H = 0,45879 \cdot A$$

h - wysokość boku ostrosłupa

$$h = 0,51287 \cdot A$$

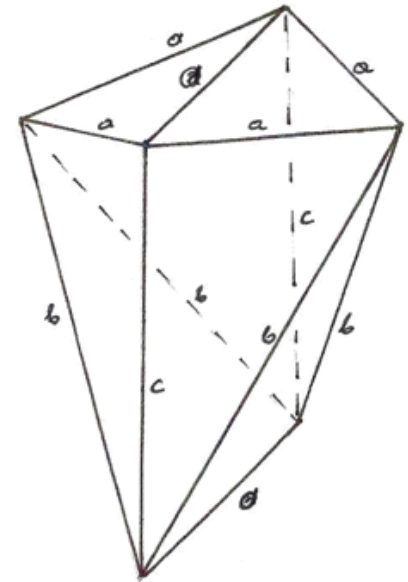
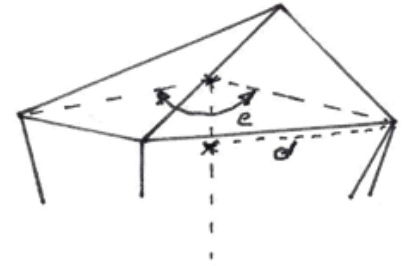
$$b = 0,53927 \cdot A$$

kąt dwusieczny
 $\alpha = 79,2^\circ$



$$c = 0,543036 \cdot A$$

kąt dwusieczny
 $\beta = 138,2^\circ$

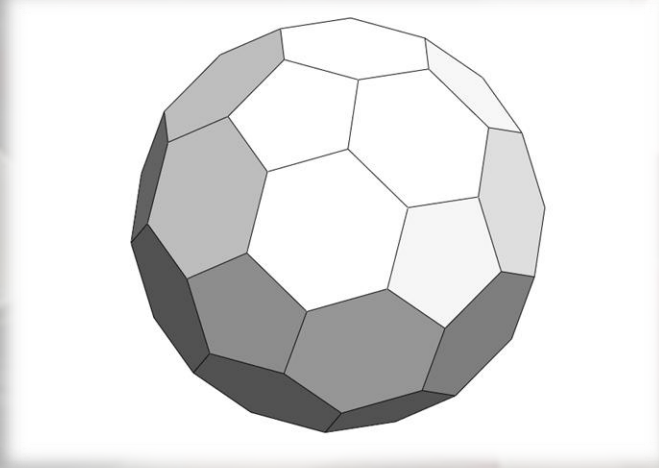
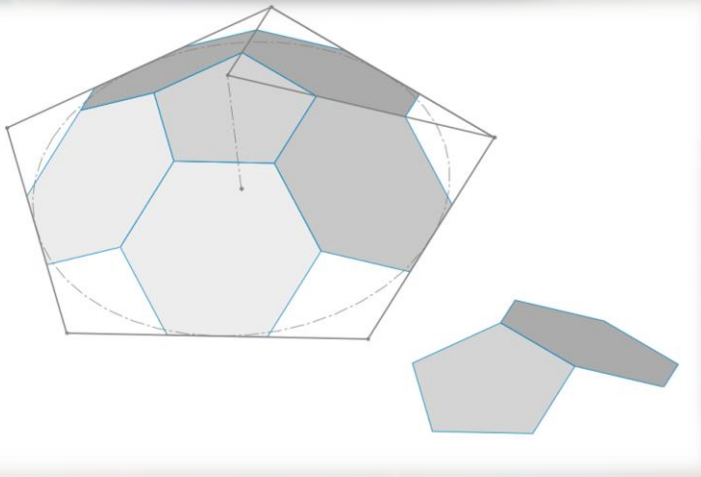
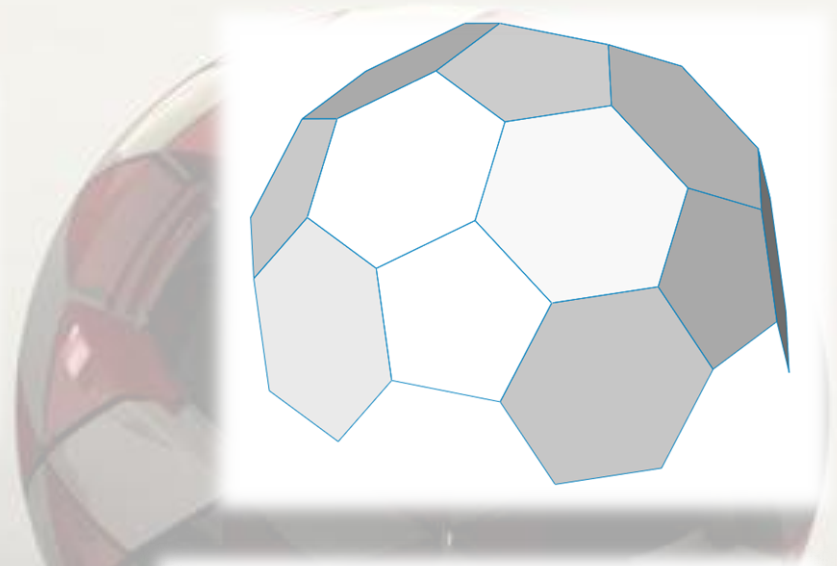
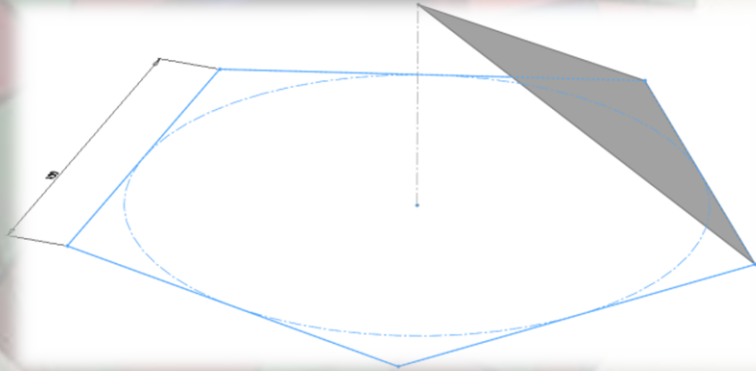


$$d = 0,26868 \cdot A$$

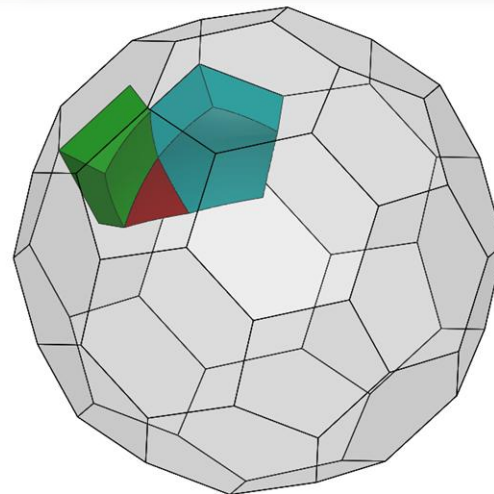
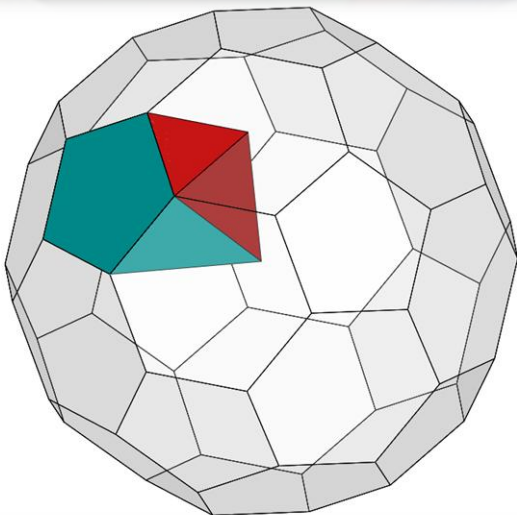
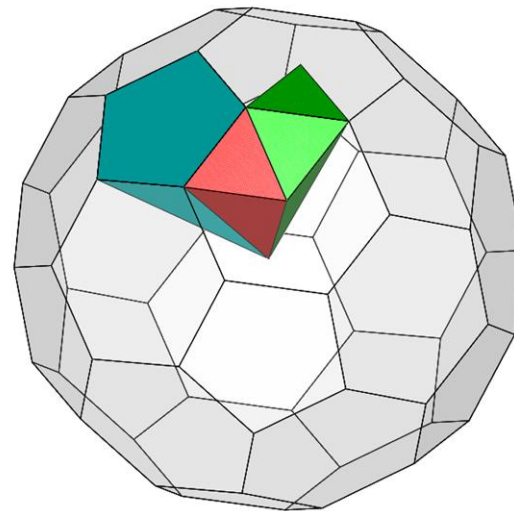
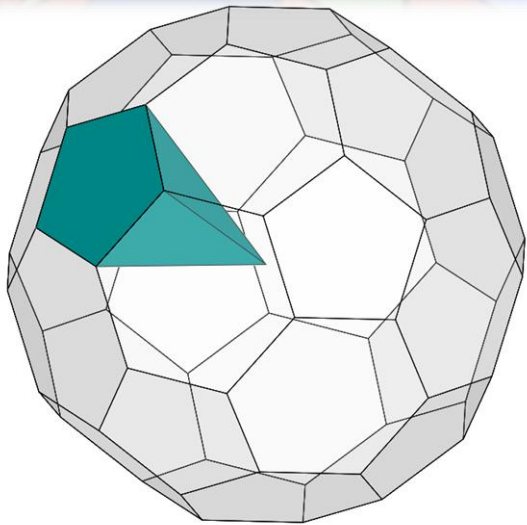
$$e = 0,103057 \cdot A$$

32-ścian ścięty - bryła platońska

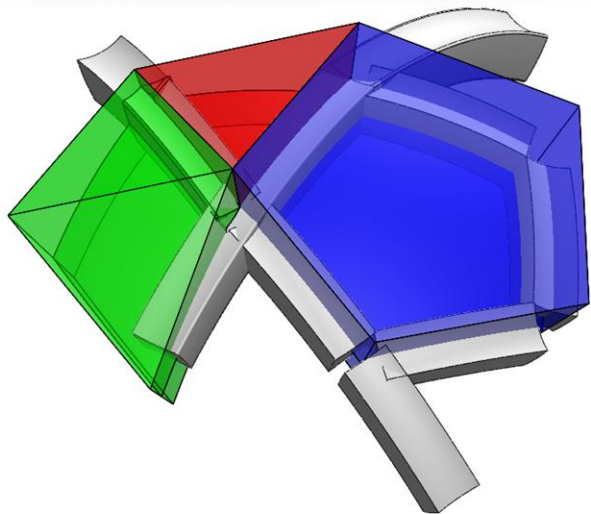
Praca w obrębie części - tworzenie obiektów powierzchniowych



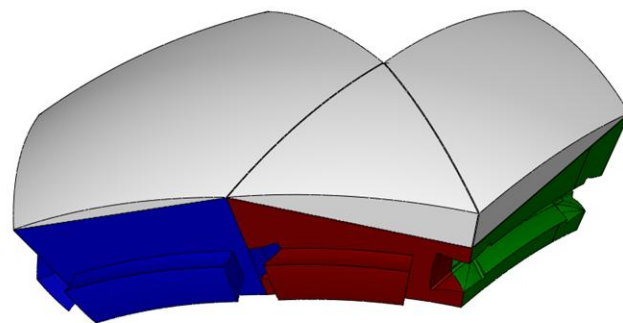
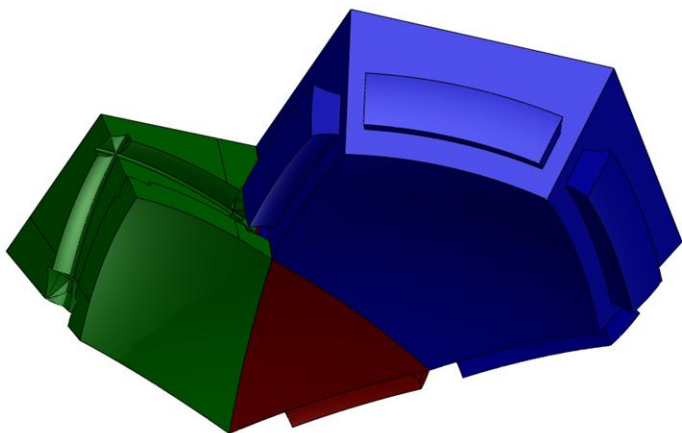
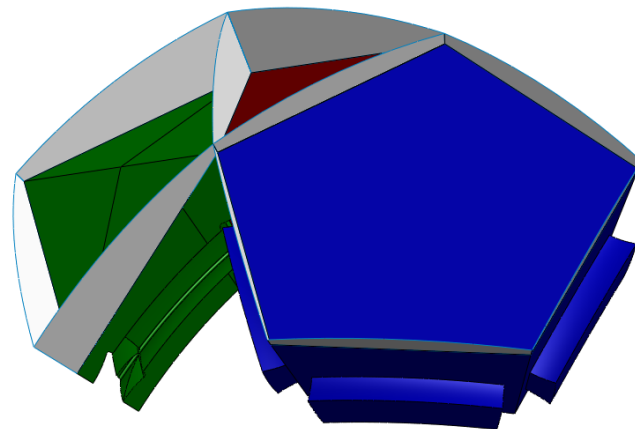
Budowa na bazie bryły platońskiej segmentów układanki



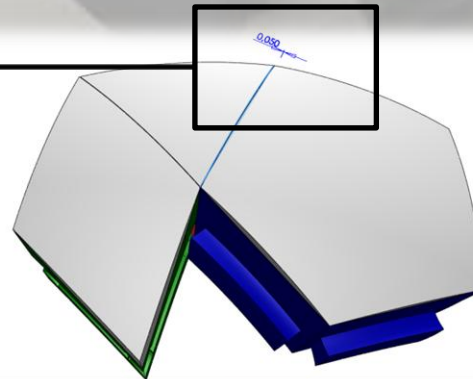
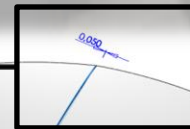
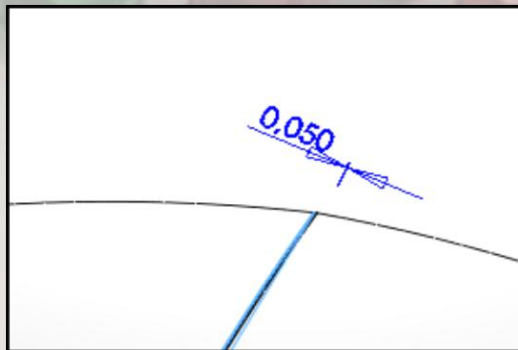
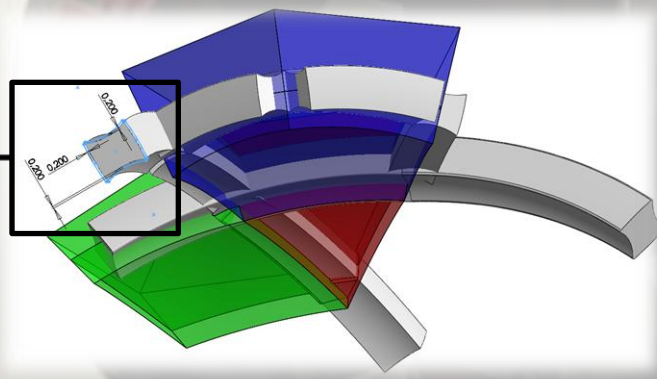
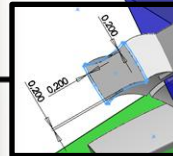
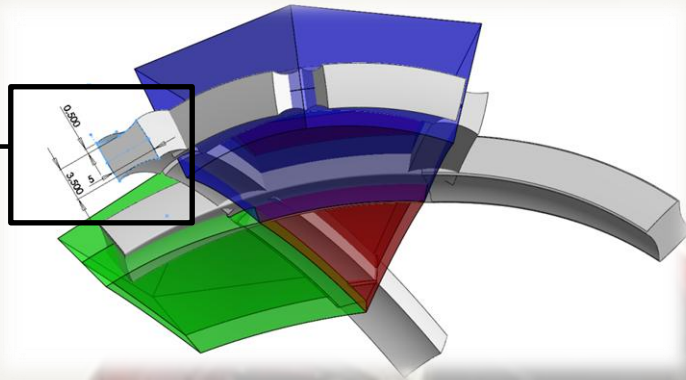
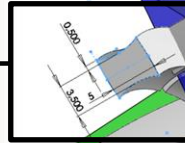
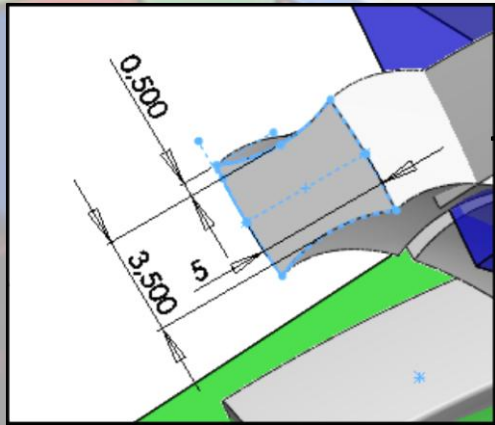
Modelowanie torów i przewodnic



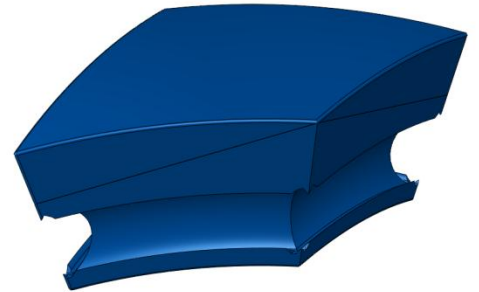
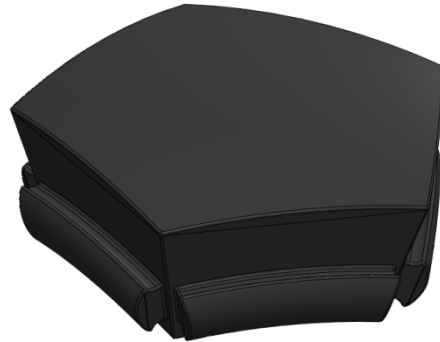
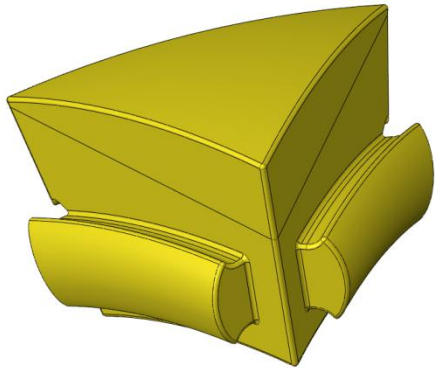
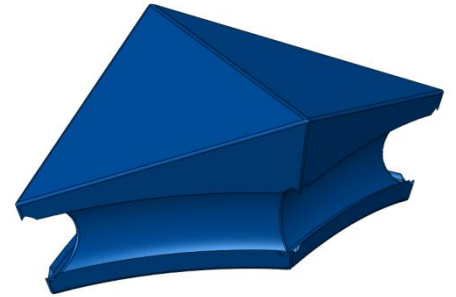
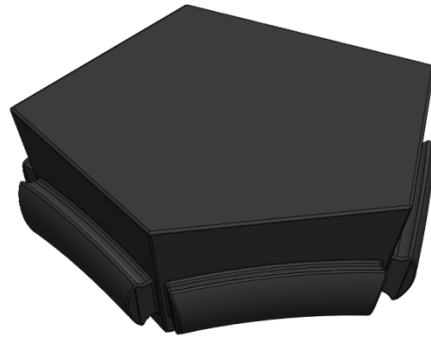
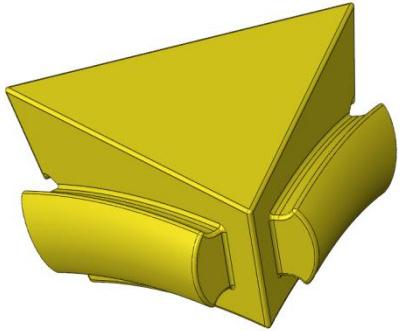
Dodanie kopuł



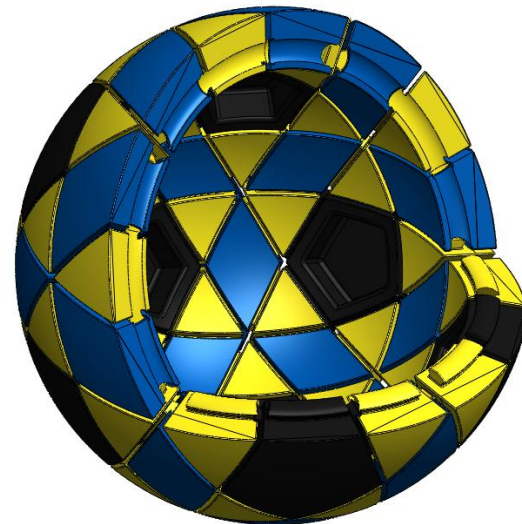
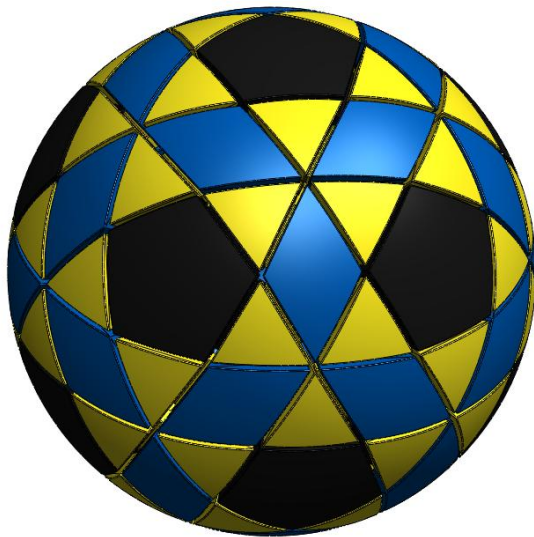
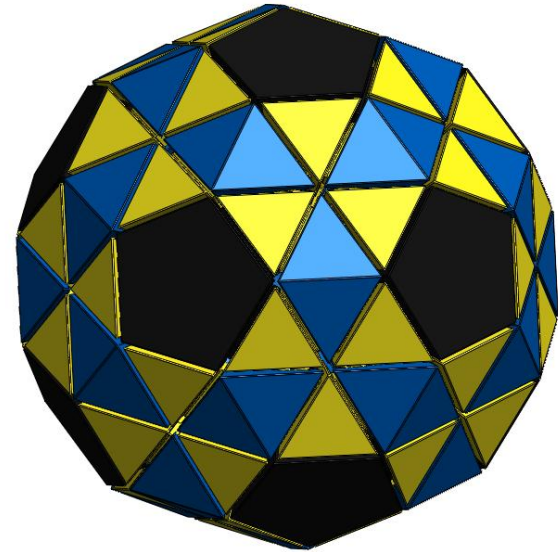
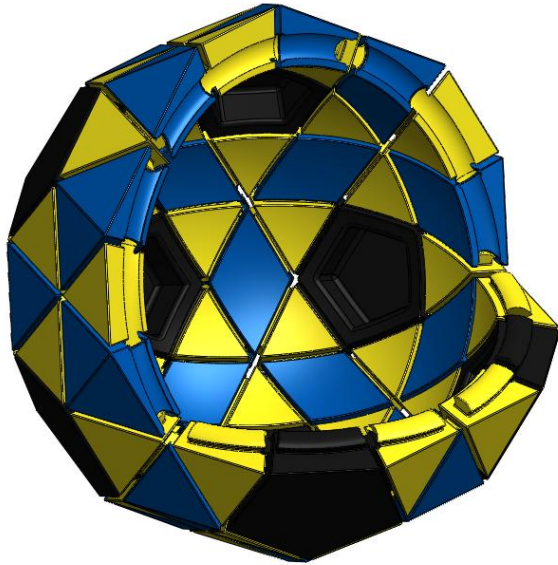
Obór luzów



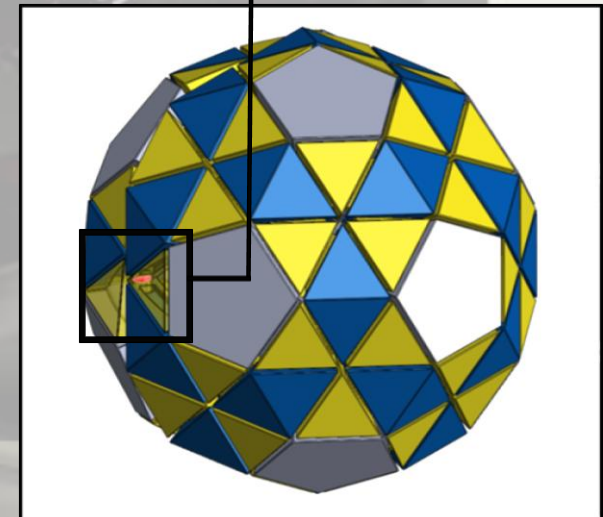
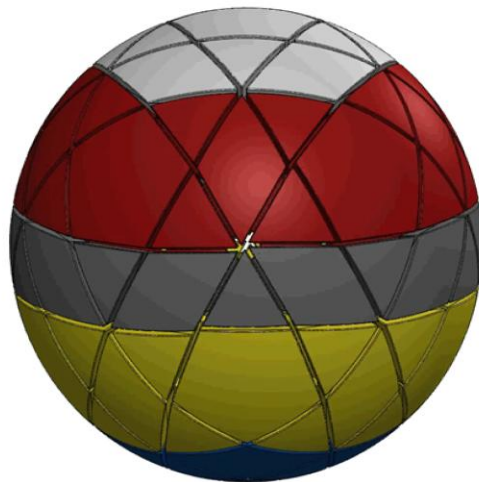
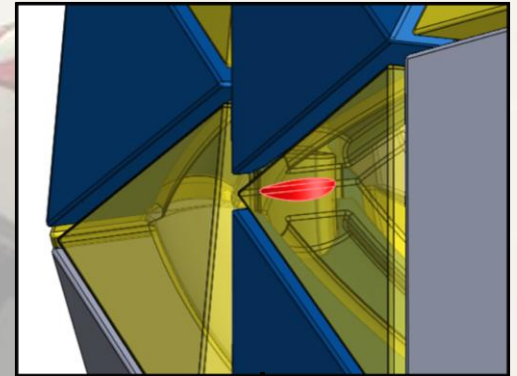
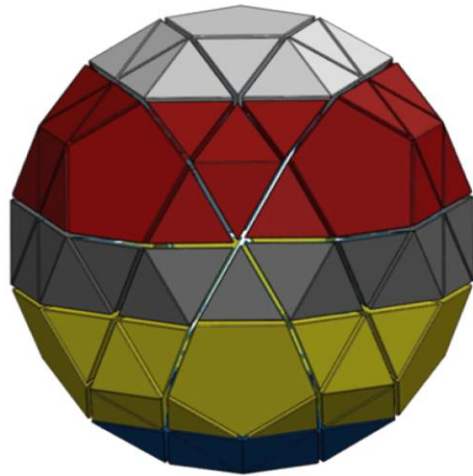
Dopracowanie szczegółów w segmentach modelu

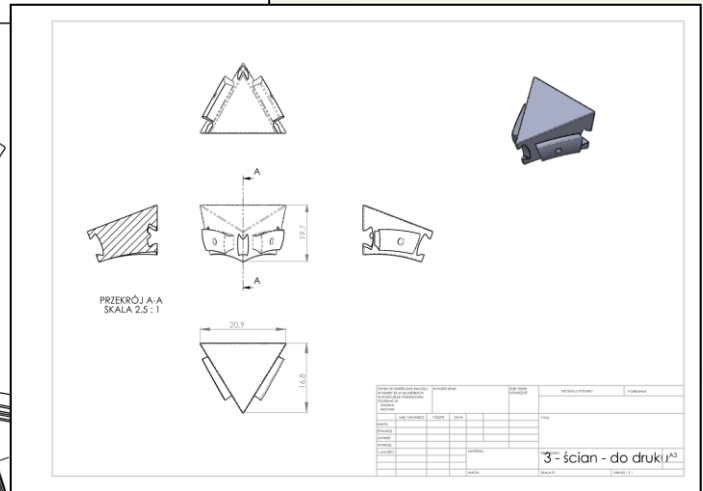
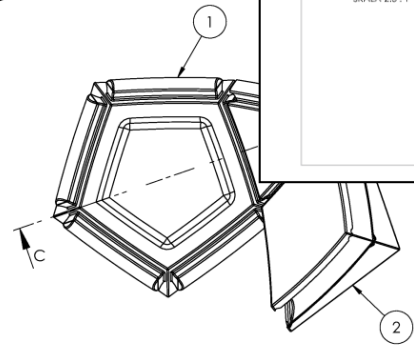
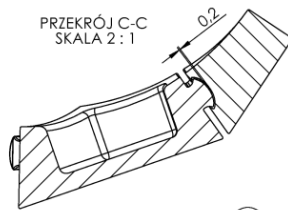
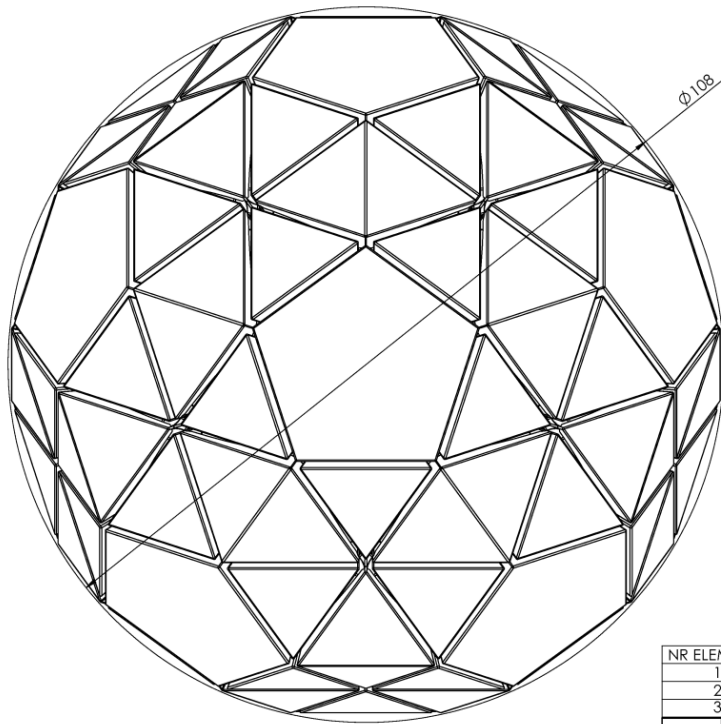


Złożenie modelu, wprowadzenie na konfiguracje



Komputerowa analiza poprawności modelu

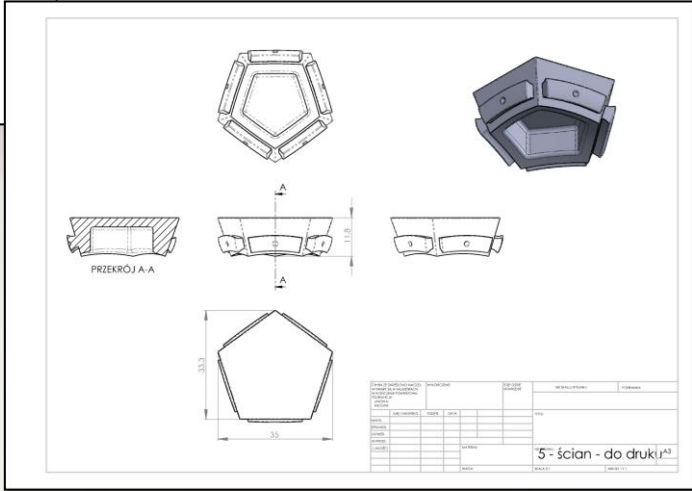




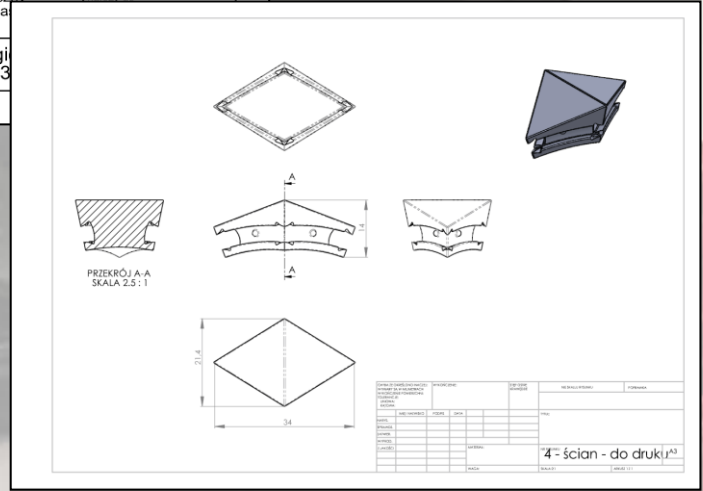
NR ELEMENTU	NUMER CZĘŚCI	OPIS	ILOŚĆ
1	Pięcio-bok		12
2	Cztero-bok		30
3	Trzy-bok		60

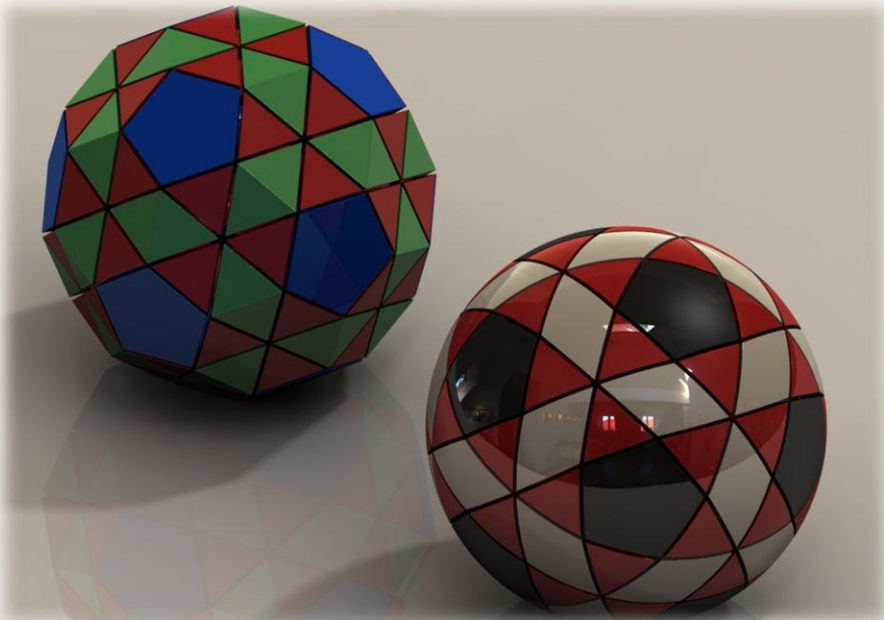
Konstruował		POLITECHNIKA RZESZOWSKA im. IGNACEGO ŁUKASIEWICZA Wydział Mechaniczny Zakład Konstrukcji Maszyn	zastępuje rys. nr
Kreślił			zastąpiony przez rys. nr
Sprawił			należy do
Zatwierdził			

Podziałka:	Format:	Nazwa przedmiotu
2:1	A3	Zabawka logi Kostka-puzzle - 3

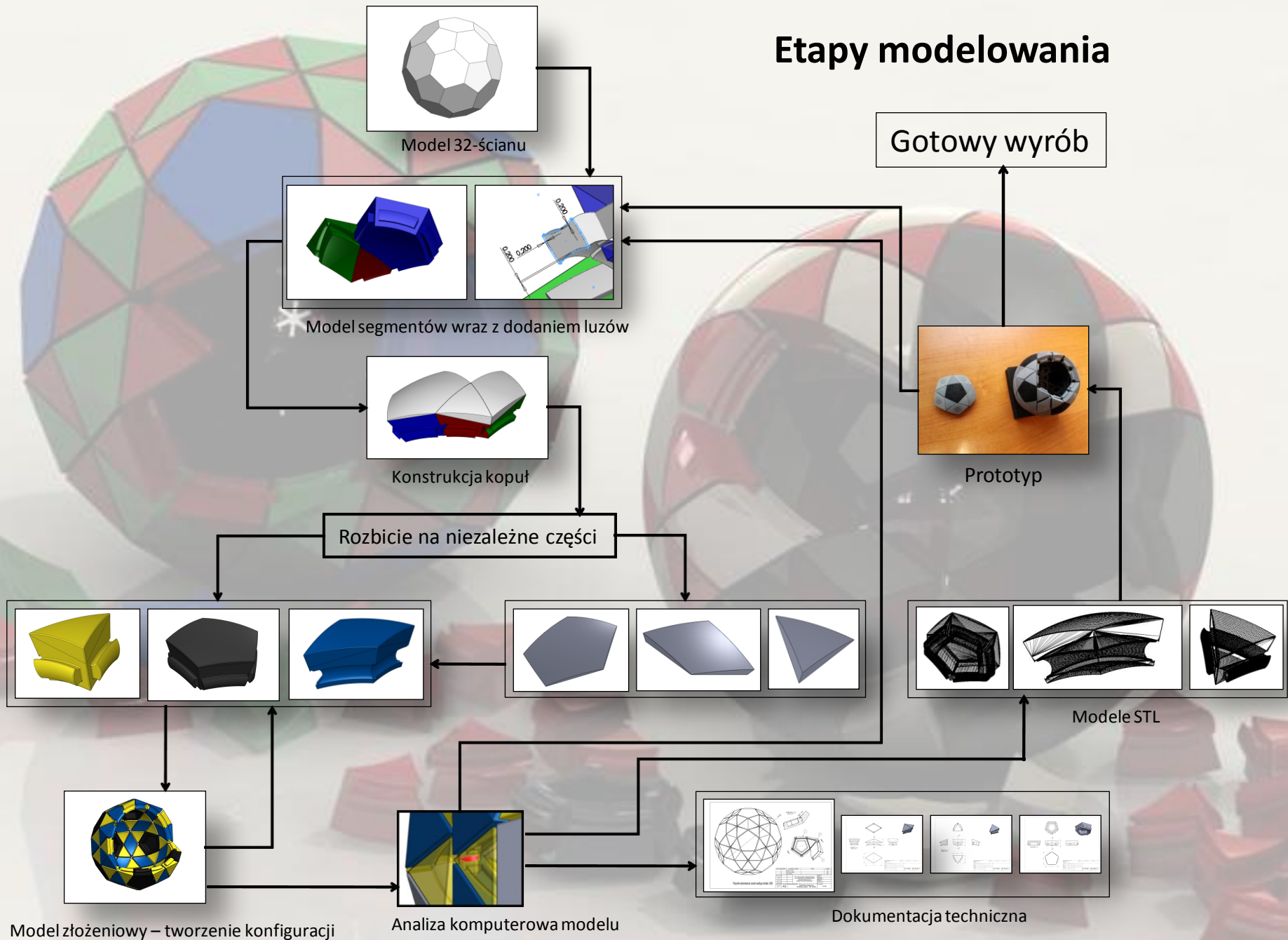


AD





Etapy modelowania



DZIĘKUJĘ ZA UWAGĘ